Pembelik

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Turkey – In the summer of 2016, the Pembelik hydropower plant on the Euphrates River in Turkey was finalized and started commercial operation. The order for the project was awarded to ANDRITZ HYDRO in 2011 by Darenhes Enerji Üretim A.Ş. – together with a contract for HPP Tatar, which started commercial operation in 2014 (see Hydro News 25).

The Pembelik hydropower plant is located on the Peri Stream River, a major branch of the Euphrates which runs between the provinces of Tunceli, Bingöl and Elazığ and within the borders of the Karakoçan district in Turkey. HPP Tatar is situated downstream of HPP Pembelik. Both projects were won following an international bidding process, with ANDRITZ HYDRO succeeding through both its technological know-how and the best offer, as well its extensive expericence in the Turkish market.

The agreed time schedule was challenging from the beginning, but HPP Pembelik was completed and handed over to the customer for commercial operation two months earlier than the contractual handover date.

View of the hydropower station area

Machine hall

ANDRITZ HYDRO's contractual scope comprised design, engineering, manufacturing, transport, and installation of turbines, generators, and electrical equipment as well as supply of an automation and protection system. In addition a 161 kV switchyard, two feeder stations, and equipment training on-site were also part of the deal.

Executed by ANDRITZ HYDRO locations in Austria and Turkey, the design and supply of turbine and generator core equipment, the protection, automation and excitation system were provided by ANDRITZ HYDRO Austria. The delivery of the 161 kV switchyard and the special components of the turbine – like the head cover, bottom ring, and stay ring – and of the generator – like the rotor spider, lower and upper brackets – as well as installion service were provided by ANDRITZ HYDRO Turkey.

HPP Pembelik has two units with a total capacity of 131.6 MW and will deliver 372 GWh of electrical energy per year to the national grid.

TECHNICAL DATA		
Output	2 × 65.8	MW
	2 × 74.2	MVA
Voltage	13.8	kV
Head	69.8	m
Speed	166.7	rpm
Runner diameter	3,620	mm
Av. Annual production	372	GWh